



# Aligning State Career and Technical Education Programs with Industry Needs and Priorities

A PLAYBOOK FOR STATE POLICYMAKERS

DECEMBER 2018

Quentin Suffren, Managing Director of Innovation Policy, *ExcelinEd*  
Dr. Danielle Mezera, Principal Consultant, DCM Consulting



---

### **About *ExcelinEd***

Launched by former Florida Governor Jeb Bush in 2008, *ExcelinEd* supports state leaders in transforming education to unlock opportunity and lifelong success for each and every child.

From policy development to implementation, *ExcelinEd* brings deep expertise and experience to customize education solutions for each state's unique needs. Focused on educational opportunity, innovation and quality, *ExcelinEd*'s agenda is increasing student learning, advancing equity and readying graduates for college and career in states across the nation.



[ExcelinEd.org](http://ExcelinEd.org)

[@ExcelinEd](https://twitter.com/ExcelinEd)

[Facebook.com/ExcelinEd](https://www.facebook.com/ExcelinEd)

---

# CONTENTS

- 2 Introduction**
- 4 Defining and Developing High-Quality CTE Programs of Study**
- 12 Aligning CTE Programs to Postsecondary and In-Demand Career Opportunities**
- 22 Implementing Fully Aligned, High-Quality Programs of Study**
- 28 What's Next: Making CTE Programs Work for Students and Employers**





## Welcome to ExcelinEd’s fifth—and final—Career and Technical Education (CTE) playbook.

This CTE playbook series has explored strategies and processes states can use to strengthen CTE program quality and provide students with pathways to postsecondary credentialing and middle- and higher-wage career opportunities.

The **first** playbook provided an expansive, high-level look at the characteristics of high-quality state CTE programs, while noting the essential alignment among a state’s programs of study and its economic and workforce priorities.

The **second** playbook tackled longstanding issues surrounding cross-sector partnerships and explored the critical role these partnerships play in developing and sustaining high-quality state CTE programs.

Our **third** playbook made the case for—and included several resources to help with—auditing a state’s existing CTE program before pursuing any actions to improve the program.

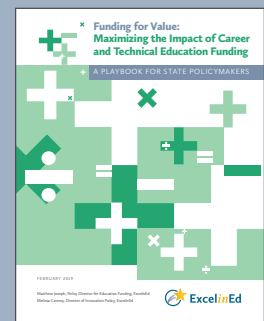
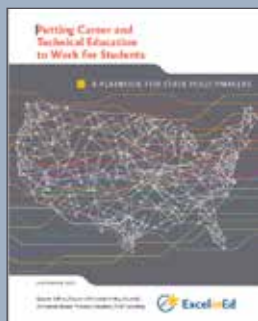
The **fourth** playbook in our series presents various funding models states can use to prioritize CTE program offerings and desired outcomes.

Our **fifth** playbook addresses the final set of steps for strengthening state CTE programs: developing CTE programs of study that align to postsecondary and in-demand career opportunities. These steps include:

- **Establish the core elements of high-quality programs of study and a process for alignment.**
- **Align CTE programs of study to the state’s priorities for program quality, alignment and desired outcomes.**
- **Implement fully-aligned programs of study and an ongoing evaluation of results.**

By this point, policymakers have established priorities, convened partners and analyzed the gaps and opportunities in their existing programs. Now the hard—but exciting—work of making transformative programmatic changes and improvements begins!

Click on the cover image to view other playbooks in ExcelinEd’s Career and Technical Education playbook series.








# Defining and Developing High-Quality CTE Programs of Study

To begin, policymakers must define what high-quality CTE programs look like and align programs with those priorities.

Discussion about ways to align secondary CTE programs of study with the workforce needs of states and communities has intensified since the reauthorization of the Carl Perkins Act (now referred to as Perkins V). Policymakers now have the opportunity to act strategically to ensure students in CTE programs and coursework are developing valuable academic and technical skills—not working toward dead ends.

A truly aligned CTE program includes a variety of high-quality pathways; it is no longer an “alternative” route for students. CTE becomes, instead, just one of several opportunities to promote postsecondary attainment and access to middle- and higher-wage careers. An aligned, high-quality CTE program should empower all students to identify their long-term career goals and complete coursework that prepares them to attain the postsecondary and industry credentials required for success in their chosen fields.



A truly aligned CTE program includes a variety of high-quality pathways; it is no longer an “alternative” route for students.

## Defining Elements of High-Quality CTE Programs of Study

Policymakers can consult the following sources to define elements of high-quality, aligned CTE programs that fit their state context.

---

### CTE Program Audit

Our third CTE playbook, *Auditing a State CTE Program for Quality*, focuses on the need for states to first ascertain what program elements are desired and then to evaluate what exists before pursuing any changes to their state CTE program, policies or funding.

### Avoiding Dead Ends

Dead-end learning occurs when students graduate with limited opportunities for economic success and mobility over their lifetimes. There are many contributing factors to dead ends, but a primary cause is misaligned secondary and postsecondary programs of study, coupled with outdated courses and standards, that no longer reflect the priorities of the state or the changing work environments of industry.



### CTE ≠ Tracking

CTE programs—even those aligned with industry demand and family-supporting careers—should not enforce rigid “tracks” that eliminate future education or workforce opportunities. In fact, truly aligned and high-quality CTE programs offer students *viable pathways with real, ongoing choices*. This means students receive instruction and training that prepare them to (1) pursue a range of postsecondary credentials, (2) engage in work-based learning opportunities and (3) earn industry-recognized certifications or gain experiences that are most relevant and immediate to their own career goals and personal aspirations.



During the audit process, policymakers should have evaluated three areas: (1) how well programs of study deliver on the desired outcomes of offerings, (2) how closely aligned programs are with labor market demands and viable career options and (3) whether some students are better served than others.

With the audit results in hand, states can establish a clear definition of a high-quality program of study and use that definition to strengthen the program for students.

---

## Federal Law

Many states will look to the federal Perkins Act to define what a high-quality CTE program of study looks like—as states must ensure they meet federal grant guidelines. Perkins V expanded the definition of programs of study to include challenging academic preparation, alignment with industry demand, and postsecondary credentials, as well as multiple entry and exit points. In addition to this Perkins V direction, policymakers can also incorporate other defining elements that reflect both state priorities and desired outcomes for students. (States should, of course, ensure these align with their Every Student Succeeds Act implementation plan.)

---

## CTE Program Non-Negotiables

In our first CTE playbook, *Putting Career and Technical Education to Work for Students*, we identified the following eight non-negotiables for state policymakers pursuing high-quality CTE programs:

- 1** All promoted programs of study align with state and/or regional industry and labor market data.
- 2** Programs of study incorporate experiential learning and capstone experiences valued by industry.
- 3** Secondary programs of study vertically align with postsecondary programs.
- 4** Courses are sequential and progressive in a given program of study.
- 5** Secondary programs of study incorporate courses and exams eligible for postsecondary credit or hours where appropriate.
- 6** Course standards are robust and accurately represent the academic, technical and employability skills learners must master.
- 7** Educators receive ongoing, progressive training and professional development to ensure their instruction is reflective of course standards and current industry work environments.
- 8** Federal, state and local funding are utilized to leverage and drive programmatic changes leading to the implementation of vertically aligned education-to-career learning pathways.

## Using an Audit to Achieve Alignment

A CTE program audit involves identifying issues that hinder or misalign a state CTE program's desired intent. These issues often include the failure to:

- Understand and define what constitutes a high-quality state CTE program and an aligned program of study.
- Articulate a vision for what is desired and why, and then frame an actionable approach to attain it.
- Identify and engage appropriate stakeholders to influence desired policy, program development and instructional practice.
- Acquire the correct complement of information and data to make informed decisions.
- Assess the current and projected economic and workforce priorities to articulate the role of K-16 in achieving those priorities.
- Undertake a complete examination of all existing CTE programs of study and courses to uproot those that are misaligned and/or low-quality offerings.
- Identify divergent and siloed funding priorities that can be reprioritized and repurposed.
- Pursue the crafting of rigorous, progressive instruction and learning environments for all CTE programs of study and for all enrolled students.
- Train up CTE educators and other stakeholders to model instructional rigor.
- Provide transparent, ongoing communications with stakeholders.

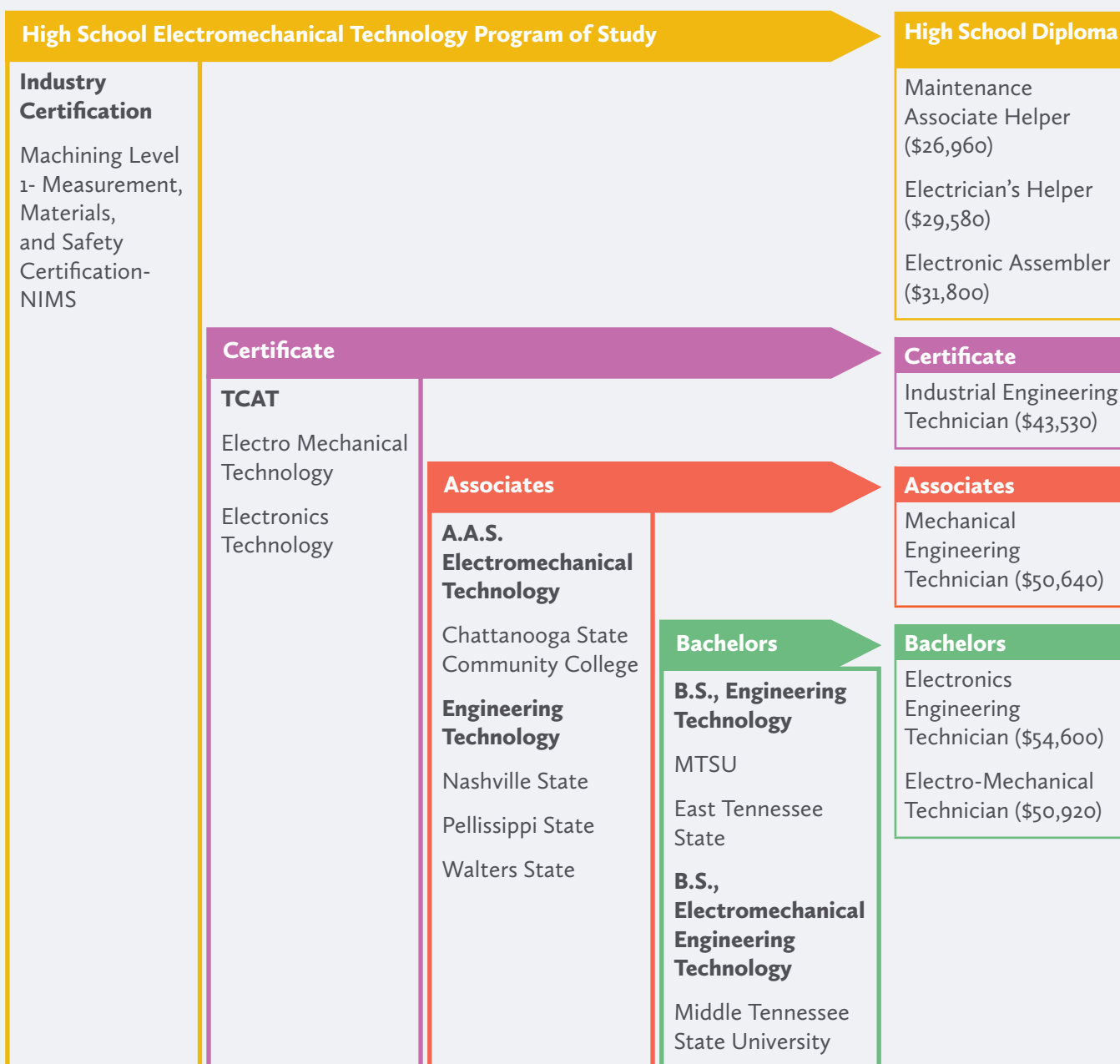


Policymakers define elements of an aligned, high-quality secondary CTE program to, ultimately, translate that definition into a set of student experiences.

## Translating a Definition into to Student Experiences

Policymakers define elements of an aligned, high-quality secondary CTE program to, ultimately, translate that definition into a set of student experiences. These experiences can create real choices and offer expansive pathways without imposing artificial limits on the opportunities for (or pace of) attainment. Below is an example of a CTE program of study in Electromechanical Technology taken from the [Tennessee Department of Education, Division of College, Career and Technical Education](#), which led a multi-year, multi-phased overhaul of its promoted secondary CTE programs.

### Example: Post-Secondary Pathway Options to a Career in Electromechanical Technology from Tennessee



## A Theory of Action for Achieving Alignment and Quality

Simply discussing the alignment of high-quality CTE programs is not the same as pursuing and achieving alignment. For policymakers, this is a defining moment.

After establishing a clear definition for programs of study, policymakers should establish a theory of action that articulates the priorities and means for verifying program quality. This living document should reflect the leading agency's commitment to achieve high-quality, aligned CTE programs and should guide policymakers through the overall alignment process.

On the following page are three lines from a theory of action taken from the Tennessee Department of Education, Division of College, Career and Technical Education, which led a multi-year, multi-phased overhaul of its promoted secondary CTE programs.

After establishing a clear definition for programs of study, policymakers should establish a theory of action that articulates the priorities and means for verifying program quality.



## Example: Theory of Action from Tennessee

<b>We Believe</b> 	<b>To Succeed We Must</b> 	<b>We Can Verify By</b> 	<b>We Can Achieve</b>
<p>Tennessee can effectively achieve a more educated and skilled citizenry, leading to at least 55 percent having relevant postsecondary credentials by 2025.</p>	<p>Graduate high school students who possess a portfolio of transferable CCR indicators leading to the successful matriculation and completion of postsecondary credentialing.</p>	<p>Analyzing student data reflective of identified readiness indicators, including early warning and noncognitive.</p>	<p>Majority of state’s population is appropriately educated and skilled for the current and future labor and economic opportunities locally, regionally and statewide.</p>
<p>Students can perform on grade level and can successfully transition from elementary to middle to high to postsecondary without remediation.</p>	<p>Develop strategies for school-based implementation that provide targeted front-end interventions while providing back-end data on specific transition strategies.</p>	<p>Analyzing student achievement and noncognitive data, as well as success rate of district/school-based interventions and supports.</p>	<p>The eradication of remediation programs and “mismatched” students at the secondary level and at the postsecondary level.</p>
<p>Every student should have access to integrated graduation strategies and robust K-16 learning pathways that lead to increased career options.</p>	<p>Align high school graduation requirements with the expectations of postsecondary, while also providing incentives and resources that encourage district goals and initiatives.</p>	<p>District-led initiatives that include elements of progressive learning pathways and diverse early post secondary courses.</p>	<p>High-functioning districts that produce students with multiple “life choice” opportunities.</p>






# Aligning CTE Programs to Postsecondary and In-Demand Career Opportunities

After developing a theory of action and definition for high-quality, aligned programs of study, policymakers can begin the process of aligning programs to postsecondary and workforce opportunities.

This effort cannot be accomplished inside a single agency. Rather, aligning programs requires the engagement of multiple public and private sector stakeholders. These stakeholders must be committed to achieving aligned, high-quality CTE programs of study **and have the authority to influence, impact and redefine their own policies, programs and funding in support of achieving fully aligned, high-quality CTE programs of study.** (See our second playbook, *Building Cross-Sector Partnerships*, for ways to identify and engage stakeholders.)



Stakeholders must be committed to achieving aligned, high-quality CTE programs of study.

## Two Approaches to Achieving a High-Quality CTE Program

There are two approaches to achieving a high-quality CTE program: a basic approach and a comprehensive approach.

---

### Basic Approach

A basic, and common, approach to achieving a high-quality CTE program includes an upward path of seamless movement from K-12 education to the workforce. Using this approach, the K-12 system leads the development and promotion of aligned, high-quality state secondary CTE programs of study, seeking insight from postsecondary and economic/workforce stakeholders along the way.



While straightforward, this approach is limited in the following respects:

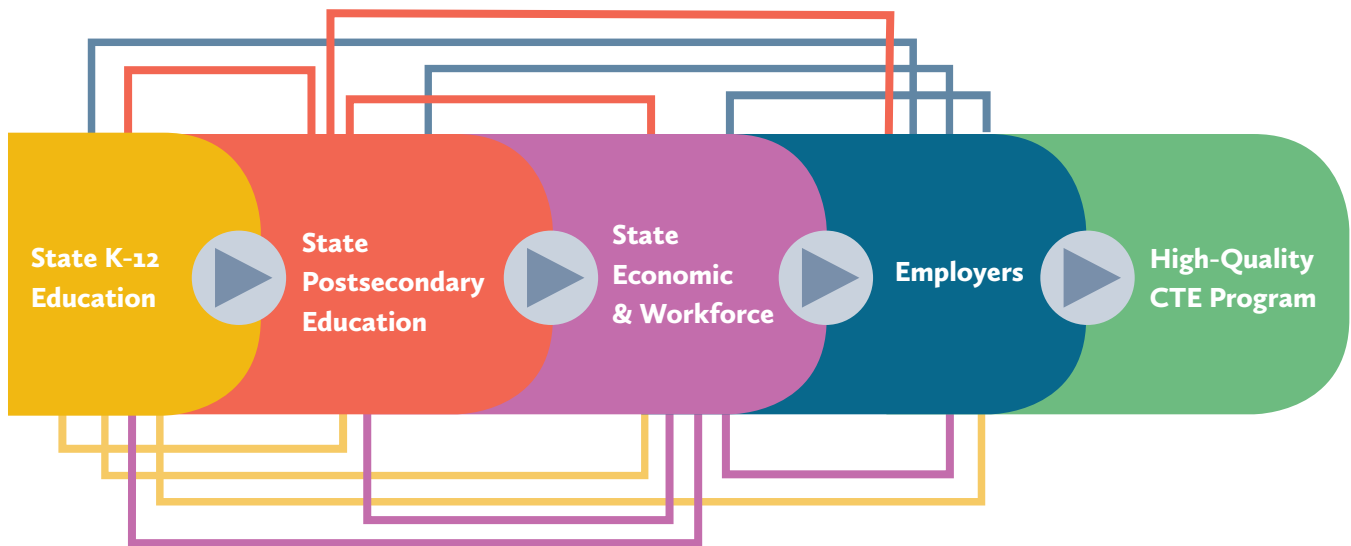
- **It relies on a single entity to drive the process and outcomes.**
- **Communication between stakeholders is often discretionary, meaning the frequency and depth of solicited feedback, data and information is at the discretion of the lead K-12 agency.**
- **The approach minimizes engagement among key stakeholders. Though this speeds up the development process, it adversely impacts the overall buy in from key stakeholders.**



---

## Comprehensive Approach

The second approach to achieving a high-quality CTE program builds on the basic version, but it emphasizes a reciprocating flow of engagement and communications among all key stakeholders, including employers. A state's K-12 agency typically facilitates the overall work, but circumstances may dictate that a different state entity is charged with it.



While this approach tends to be more effective than the basic approach, there are still vulnerabilities, including:

- **Agency stakeholders must be willing to redefine their own policies, programs and funding in support of these programs.**
- **Roles and responsibilities for all stakeholders must be clearly delineated throughout the process to set expectations and to drive timely completion.**
- **Employer engagement must be authentic and it must carry over into the implementation and sustainability of the developed programs of study.**

The overall approach must still involve strong engagement of stakeholders and a clear road map on how process goals, action steps and outcomes will be accomplished—all of which lead to the eventual development and promotion of aligned, high-quality state secondary CTE programs of study.

## Developing Aligned, High-Quality CTE Programs

Regardless of the approach, the development of aligned, high-quality state CTE programs of study is a multi-phase, multi-step commitment on the part of policymakers. The first phase involves identifying key stakeholders, completing three major activities and developing essential planning documents.

---

### Key Stakeholders

The stakeholders for the alignment process are very similar to those engaged for the audit. Though individuals and titles will vary across states, these stakeholders should include leads and representatives from the following organizations:

- K-12, notably secondary education
- Postsecondary, notably technical colleges and community colleges
- Labor and workforce
- Business and industry
- Economic development
- Governor's office and key legislators

While some of the individuals and organizations may shift for this part of the work, there should remain a firm commitment to include the voices of business and industry. It may be tempting to assume this is where educators take over, but the revision of coursework and associated experience must align with industry standards. To achieve this, regional business and industry partners must provide input throughout the process. They will be necessary champions for many changes to the state's CTE program.

### ROLE OF THE EMPLOYER

A state cannot develop and implement truly aligned, high-quality CTE programs without employers being actively involved throughout the process. To ensure their active involvement, policymakers must overcome the following potential hurdles: (1) difficulty networking and recruiting the right businesses, (2) getting the right employees for the work needed, (3) uncertainty as to when employers should be involved and for what purposes and (4) the need for a quick work process turnaround.

### What Is Meaningful Employer Engagement?

For an employer to be meaningfully engaged, policymakers must establish a clear purpose and need (articulated through purposeful actions and activities) and outcomes. Our second playbook, *Building Cross-Sector Partnerships*, details specific approaches and steps for state policymakers to consider when engaging employers. In the end, no one wants their time wasted, and buy in will not come when engagement is inauthentic.

### When Should Employers Engage?

While employer engagement should be integrated throughout any CTE curriculum development process, there are four key moments when employer engagement is most essential:

1. Enhancing educator understanding of current and projected industry jobs and the knowledge and skills needed to successfully obtain and retain the identified occupations.
2. Providing industry knowledge to influence the development of CTE courses and standards that constitute CTE programs of study.
3. Providing industry knowledge to influence the identification, integration and building of valued skills and experiences in the overall learning process.
4. Enhancing educator knowledge and skills reflective of industry to inform instructional practice.

One example of a state that is quickly becoming a leader in engaging employers is Nevada. Over the past few years, the state has put cross-agency processes into place, along with complementary statewide initiatives, to drive the development of CTE pathways that are better aligned with the state's economic and workforce data and priorities. Through the work of the Office of Workforce Innovation for a New Nevada and the newly developed Learn-Earn Advanced Career Pathways program process, employers are now actively engaged in framing state CTE courses and curriculum.

---

### Major Activities

Aligning programs of study—and the state's CTE program more broadly—requires three major activities. These activities will be informed by the state's established priorities, or non-negotiables for program quality, and the CTE program audit.

1. Phase out programs of study that are dead ends or do not reflect labor market demand.
2. Update remaining programs of study to meet industry standards and ensure rigorous preparation.
3. Identify and develop new programs of study to address gaps in industry demand.

Phasing out dead end programs of study is straightforward, if not necessarily politically easy. It involves robust communication with districts and schools about the timeline for elimination and clear assurances that students currently completing these pathways will not be cut off. It also requires strong collaboration with districts and schools as they plan for the impact on affected staff, including options to retrain or upskill staff to teach in prioritized programs of study. These considerations should be included in the action plan discussed later in this playbook.

The second and third activities require a clear understanding of the core components in a program of study. These components are dictated, in part, by the state's established definition.

## Role of State Postsecondary Systems

To ensure a state's CTE program and offerings lead to opportunities for students to earn postsecondary credentials, policymakers should engage state-level postsecondary systems or governing boards in the planning and implementation of new programs of study. Below are seven key steps that postsecondary systems can take to engage fully in the strengthening of state CTE programs.

1

**Commit to working with the K-12 system leadership to ensure the state's education systems align to the state's economic and labor priorities (current and projected).**

For example, to ensure stronger credit and credentialing alignment between K-12 and postsecondary, states should consider appointing senior staff to work with the K-12 system and through the formalizing of any policies or agreements that need to be in place.

2

**Review existing secondary CTE programs of study to identify which titles are also offered at the postsecondary level through credentialed programs (sub-associate degree, associate, bachelors, post-baccalaureate).** Programs of study without a postsecondary link should be evaluated for relevance within the state's larger economic/workforce priorities.

Postsecondary staff should also consider where changes to their offerings may be needed to address new or high-value pathway opportunities.

3

**Compare vertically aligned secondary offerings and their sequencing with postsecondary offerings and sequencing, noting where there are similarities and differences.** Where there are differences, these courses are then discussed by both parties to determine if any courses and sequencing should be changed at either level.

4

**Review aligned secondary course standards and learning objectives against the postsecondary course standards, learning objectives and expected knowledge/skills** to determine if either the secondary course or the postsecondary course could count for dual or concurrent credit (e.g., dual enrollment, dual credit, AP, etc.).

5

**Adjust or amend any needed policies (new or revised) or formal agreements between or within each system** based on the discoveries and agreements reached between the two systems during this alignment process.

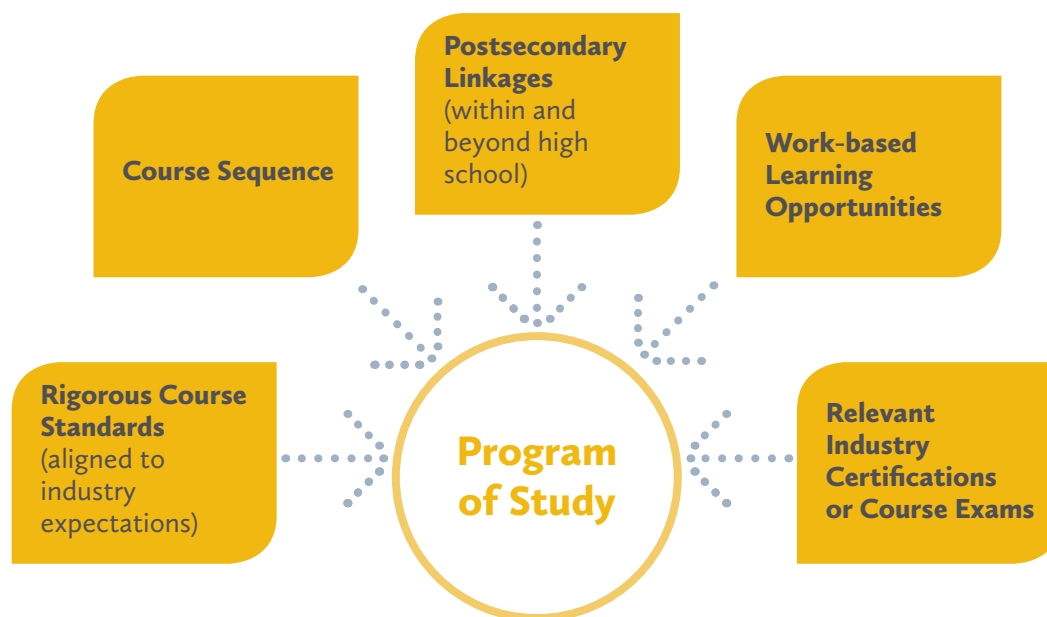
6

**Serve as a thought partner with the K-12 system on ways to address instructional gaps due to lack of qualified teaching staff.**

7

**Develop joint communications, messaging and marketing to students, parents, employers and community stakeholders** to promote the vertical alignments and what they mean to the student and broader community.

## Core Components of a CTE Program of Study



For most states, the core components will not be new. What will be new is the need to ensure that all updated or new programs of study include all core components as part of a learner's experience. It may be tempting to make exceptions for some programs of study, but policymakers should adhere to the definition for quality programs of study and ensure that each component reflects the level of rigor and content that will help learners succeed.



### Not All Industry Credentials Are Created Equal

More states are adopting or promoting industry credentials within their CTE programs, but not all industry credentials/career pathways are created equal. Students are served best by credentials with the following characteristics:

- **Labor Market Demand:** Credentials are informed by labor market demand data.
- **Pathway to Upward Mobility:** Credentials are linked to positions and fields that provide higher, living wages.
- **Portable:** Credentials are recognized nationally, or internationally, by business and industry to offer students the broadest opportunities.
- **Third Party Verification:** Knowledge and skills are demonstrated by students, whether through assessments, projects or activities.
- **Postsecondary Connection:** Pathways offer students an opportunity to stack associate/secondary level credentials with postsecondary credentials. Articulation agreements allow secondary students to earn college credit by earning qualifying credentials.

## Planning Documents

Developing aligned programs of study requires some detailed front-end planning on the part of policymakers. This should include (1) setting long range, high-level process goals and (2) creating a detailed action plan that incorporates appropriate goals and objectives, leading to clear action steps and outcomes.

### LONG RANGE, HIGH-LEVEL PROCESS GOALS

Long range, high-level process goals should serve as the North Star for the overall work to be completed through the first phase. Therefore, the process goals should include general descriptions of what will be accomplished and when. This will ensure key stakeholders understand what the major work will be, when it will be taken up and when it will conclude with the achievement of fully aligned, high-quality secondary CTE programs.

Goal setting can take many forms, and the following sample offers one example. This sample was adapted from one developed by the [Tennessee Department of Education](#) as part of its CTE program overhaul process.

#### Sample: Long Range, High-Level Process Goals

Phase	Goal	Timing
<b>PHASE I</b>	Streamline existing courses and programs of study	<b>YEAR 1</b>
<b>PHASE II</b>	Add relevant new courses and new programs of study; revise courses to align to higher student expectations	<b>YEAR 2</b>
<b>PHASE III</b>	Evaluate outcomes of revised offerings	<b>YEAR 3</b> (Ongoing Afterward)

#### QUICK WINS

Eliminate redundancies  
Streamline for greater flexibility  
Organize curriculum in programs of study using existing courses

#### YEAR 1

#### DEEPER DIVE

Revise existing courses  
Develop new courses  
Increase relevance of programs of study to reflect stronger alignment

#### YEAR 2

#### EVALUATE AND ASSESS

Analyze student outcomes against a range of secondary and postsecondary indicators for college readiness, enrollment and attainment

#### YEAR 3 AND BEYOND

### ACTION PLAN

The action plan identifies and addresses the specific steps to take at any given time throughout the overall process. It should be a living document that allows for steps to fall off once completed and new steps to be added as the process begins a new phase of work. The lead agency or organization should develop and manage the action plan, and the plan should be shared regularly with other key stakeholders. [Delaware](#), for example, has created a “strategic plan” as part of its initiative that includes a 14-member steering committee.

The three major activities of alignment can be articulated as a set of integrated work streams in the action plan (see next page). Doing so will help ensure stakeholders understand how the desired deliverables will lead to the achievement of the identified long-term goals for the process, what action steps are needed to achieve those deliverables, when they need to be achieved and by whom.

## Action Plan Work Streams

- 1. Data Collection and Analyses:** The identification, collection and analyses of data and information needed to inform decision-making and the identification of aligned, high-quality secondary CTE programs.
- 2. Programs of Study:** The review of existing state-promoted secondary CTE programs of study; the identification of new programs of study in industry/occupation areas that are aligned with state economic and workforce priorities.
- 3. Course Sequencing:** The review of existing courses in support of identified aligned programs of study; the identification of new courses to fill academic, technical and employability skills gaps in learning sequencing.
- 4. Early Postsecondary Credit:** The identification of courses that award postsecondary credit or hours toward completion of complementary postsecondary programs; the creation of system articulation agreements where applicable.
- 5. Course Standards:** The review of standards for existing courses as well as the revision of said standards to reflect increased rigor, reflecting integrated academic, technical and employability skills; the creation of standards for new courses.
- 6. Vertical Program of Study Progression:** The confirmation of existing credentialed public postsecondary programs aligned with identified secondary programs of study to affirm vertical matriculation opportunities; the creation of system-to-system articulation agreements, where applicable.
- 7. State Policies, Agreements, Statutes and Funding Implications:** The identification of existing and needed state policies, rules, agreements, statutes and funding to address the successful development and implementation of aligned secondary CTE programs of study; the identification of sequenced timelines to achieve necessary changes complementary to long-range goals.
- 8. Staff Capacity:** The framing and implementation of necessary training to increase internal staff capacity to facilitate the development of aligned, high-quality state secondary CTE programs of study and to provide necessary training and professional development for impacted educators and other stakeholders.
- 9. Transition Timelines:** The retiring of existing, misaligned state CTE programs of study and courses; the setting of policies and timeline for impacted students and educators.
- 10. Industry-Valued Certifications:** The identification of industry-valued certifications reflective of aligned secondary CTE programs of study; the affirmation of valued certifications by employers; the affirmation of tested certification knowledge and skills embedded in course standards.
- 11. Statewide Work-Based Learning Program:** The review of existing statewide work-based learning program; the identification of program and policy changes to more accurately reflect industry experiences that are aligned with secondary CTE programs of study.
- 12. Educator Training and Professional Development (District Level):** The framing and implementation of formalized ongoing, progressive curriculum training and professional development for CTE educators leading to mastery of CTE course standards and instructional practice.
- 13. Communications Plan:** The development and implementation of an extensive, proactive communications plan for external stakeholders that is ongoing and transparent regarding the process and its various facets. (This plan should also include the public reporting mechanisms needed to ensure that all stakeholders understand the updated program offerings and desired outcomes.)





# Implementing Fully Aligned, High-Quality Programs of Study

Developing aligned, high-quality secondary CTE programs of study from a state-level perspective does not necessarily ensure that they will be implemented with ease or fidelity at the local level.

Implementation of the updated or new programs of study will be the work of local districts and schools. Like the creation of cross-sector partnerships, this work is intensely regional and local in nature. While no playbook can foresee all the implementation challenges that lie ahead—or consider all local or regional contexts—there are some key steps that states should take to support local implementation and address ongoing issues that will arise.

- 1. Develop and execute a coordinated communication plan that keeps all stakeholders apprised of the work, including major changes and new opportunities and supports.**
- 2. Provide grants or funding to help districts and schools make the transition to new programs of study.**
- 3. Develop a state-wide initiative to engage and train school staff in the new course standards and curricular expectations.**
- 4. Upgrade data systems to monitor the effectiveness of CTE programs of study and evaluate outcomes against state and regional priorities.**
- 5. Remain agile by developing an annual review process for existing program offerings and proposed new ones.**

## Developing a Communications Plan

Communications and messaging are essential to implementation, especially when it involves multiple stakeholders and complex, lengthy work. An effective communications plan should accomplish the following:

- **Provide for a clear roadmap for consistently communicating with stakeholders**, especially those who will be the recipients of the finished work. Stakeholders should feel fully informed about the “why” and understanding the necessary steps being taken to achieve that purpose.
- **Clearly articulate timelines** for phasing out certain programs of study and implementing updated or new ones.
- **Articulate state-supported opportunities for professional learning** that will help local district and school staff make the transition to updated and new programs of study.
- **Enable important policy, programmatic and funding conversations** to occur among stakeholders in a positive, safe professional environment, including a systematic means of gathering feedback and input.
- **Demonstrate how the process and its completed work is being evaluated** to show the value and priority placed on it by state policymakers, including how results are connected to other state education and workforce goals.
- **Seek to engage stakeholders who may not have been historically involved in state CTE programs** to ensure broad understandings of the benefits to students and the workforce.

Communications should include regular progress updates, as well as progress toward meeting overall goals and outcomes. These updates should incorporate both qualitative and quantitative metrics, where appropriate.



Communications should include regular progress updates, as well as progress toward meeting overall goals and outcomes.

## Providing Funding to Support Local Implementation

The transition to, and sustainability of, the updated or new CTE programs of study may come with costs beyond the retraining of staff or adoption of new curricula. Many programs require specific equipment or other capital outlays for laboratories, special facilities or technology. Some will require new partnerships among schools, postsecondary institutions and employers. State policymakers can smooth this transition by providing funding for prioritized programs or funding based on the value of specific outcomes and programs.

Districts and schools should be empowered to select programs of study that offer the greatest value to their students and communities—and focus existing and new funds on ensuring the broader program succeeds. See ExcelinEd’s fourth playbook: *Funding for Value: Maximizing the Impact of Career and Technical Education Funding* for more information.

### Funding Strategies to Support Local Implementation

- **Financial incentives** that promote desired outcomes, such as incentives for attainment of high-value industry certifications, start-up and development of high-value programs of study, or student success in specific programs of study.
- **One-time funding** (through legislation) devoted to equipment and materials for high-demand, high-cost programs of study. As part of its transition to new programs, Tennessee provided a one-time grant for equipment purchase (\$15 million total).
- **Allocated funds** for state intermediaries that can help ensure the development of partnerships and work-based learning opportunities at the regional and local level. Iowa is among states that have appropriated funds to support and promote a statewide network of [intermediaries](#).
- **Grants** to support intra-district partnerships to create shared programs and economies of scale. [Texas](#) is one example of a state that has used its reserve funds in this manner.
- **Adjust existing CTE funding** to promote those programs of study that are most beneficial to the state and students. For instance, both Indiana and Arkansas are taking steps to tier funding based on the value of certain programs.
- **Competitive grants** from Perkins Reserve funds to incentivize schools and districts to adopt and support specific programs of study. (See ExcelinEd’s brief [Perkins V Reauthorization: Opportunities, Challenges and Risks for States](#) for additional information.) Delaware has offered such grants ([Innovation Grants](#)) to support adoption and training of “model” programs of study.
- **Grants or incentive funds** dedicated to online learning opportunities for rural or underserved schools, to address gaps in access and equity for specific programs of study. (See our [resource here for additional information](#).) Indiana is one example of a state that has prioritized CTE courses as part of its [statewide course access program](#).

In addition to grants or additional funding, the CTE program revision process should result in a streamlined set of offerings. For their part, districts and schools should be empowered to select programs of study that offer the greatest value to their students and communities and to focus existing and new funds on ensuring the broader program succeeds.

## Upskilling and Training Educators

While no state can train or re-train every teacher (nor should they), policymakers can provide meaningful opportunities and support as educators transition to updated or new programs of study. These opportunities should start early and be incorporated into the communications plan so local educators feel invested in the changes and prepared to meet instructional expectations. Examples of these opportunities include:

- Regional meetings to share process and gather feedback on proposed changes to programs of study
- Surveys or open comment periods on changes to course standards
- Regional professional learning sessions for unpacking course standards for each career cluster
- Development of virtual resources to support instruction
- Training sessions for cohorts of district CTE directors aimed at helping them support their school and district implementation efforts

Most states already have existing structures to support professional learning, and policymakers should see these as critical vehicles for engaging and supporting educators throughout the program changes.

## Improving Data Systems

As we noted in our playbook, *Auditing a State CTE Program for Quality*, one likely challenge in evaluating program quality is the availability of data. As policymakers look to implement changes in their state's CTE programs, they will need to use the results of the audit to identify gaps and determine what additional data should be collected or merged in existing systems. They will also need to identify data from other agency systems that could be integrated into a single, more comprehensive set of indicators. Although the list will vary from state to state, these data might include:

- Dual credit or concurrent enrollment course data related to CTE programs of study
- Industry-recognized certification attainment
- Statewide or regional labor market information for each career cluster or program of study
- Data highlighting any gaps in access to or equity of promoted programs of study
- Data related to completion of work-based learning activities
- Survey data from students and parents related to program activities and experiences
- Outcome data for graduates, such as postsecondary attainment and employment information tied to completed programs of study

As policymakers update or enhance their data systems, they should also consider establishing user-friendly reporting mechanisms for communicating data and information from multiple sources.



Labor markets and industry practices are constantly changing or adapting to new innovations or economic opportunities. State CTE programs must do the same if they are to remain aligned and high quality.

## Remaining Agile over Time

Central to the success of any state CTE program is confirming that it is achieving its purpose and remaining relevant to the needs and priorities of the state. To accomplish this, policymakers should view implementation as an ongoing process, one that will need to be regularly evaluated and amended. After all, labor markets and industry practices are constantly changing or adapting to new innovations or economic opportunities. State CTE programs must do the same if they are to remain aligned and high quality.

In practical terms, policymakers should develop an annual review process for all CTE programs. Leveraging the data and program quality indicators created during the program audit phase, they can annually assess trends in program effectiveness, access and equity and alignment to industry standards. Similarly, the annual review process should include an opportunity for proposed changes, additions or deletions to the state's program.

Tennessee incorporated such an annual review process into its program, which allows proposals from local schools and districts (in concert with partners and employers). Engaging in annual reviews of CTE programs encourages all stakeholders to remain agile and engaged as they seek to provide better opportunities for long-term student success.



# Making CTE Programs Work for Students and Employers

We hope this playbook and our [entire CTE playbook series](#) initiate deeper conversations resulting in states improving their CTE programs. Policymakers and stakeholders should not shy away from probing questions about their state's CTE program. It is their responsibility to ensure the program serves students, employers and the state well.

With the publication of this fifth and final playbook, we remain committed to supporting states as they work to improve CTE programs. Their work has the power to transform not only their economic and workforce outlook but the lives and opportunities of students for generations to come.

For more resources and the complete  
CTE Playbook series, visit  
[ExcelinEd.org/CTE-Playbook-Series](https://www.ExcelinEd.org/CTE-Playbook-Series).

